

⑩ 日本国特許庁(JP)

⑪ 実用新案出願公開

⑫ 公開実用新案公報(U)

平1-178638

⑬ Int. Cl.<sup>4</sup>

G 06 F 3/033

識別記号

3 4 0  
3 3 0

庁内整理番号

D-7010-5B  
B-7010-5B

⑭ 公開 平成1年(1989)12月21日

審査請求 未請求 請求項の数 1 (全 頁)

⑮ 考案の名称 座標入力装置付コンピュータ

⑯ 実 願 昭63-73812

⑰ 出 願 昭63(1988)6月2日

⑱ 考 案 者 金 子 徹 正

愛知県名古屋市東区矢田南5丁目1番14号 三菱電機エン  
지니어リング株式会社名古屋事業所内

⑲ 出 願 人 三菱電機株式会社

東京都千代田区丸の内2丁目2番3号

⑳ 代 理 人 弁理士 大岩 増雄

外2名

**Partial Translation of Japanese Laid-open Utility Model Application No. 1-178638**  
**Computer with Coordinates Input Apparatus**  
**Publication Date: Dec. 21, 1989**

JAPANESE PATENT OFFICE

Publication of Japanese Laid-Open Utility Model

Japanese Laid-Open Utility Model Application No. 1-178638(A)

Publication Date: Dec. 21, 1989

**TITLE OF THE UTILITY MODEL**

Computer with Coordinates Input Apparatus

Japanese Utility Model Application No. 63-33812

Application Date: June 2, 1988

Inventor: Tetsumasa Kaneko

Applicant: Mitsubishi Electric Co., Ltd.

14 lines of 3 page - 11 lines of 6 page

**[Means for Solving the Problem]**

The computer with coordinates input apparatus of the present utility model provides, within the body thereof and the coordinates input apparatus, an infrared beam converting circuit for converting an electric signal to an infrared beam in place of a cable for the connection between the computer body and coordinates input apparatus, a transmitting section for transmitting this infrared beam, a receiving section for receiving the infrared beam and an electric signal converting circuit for converting the infrared beam to an electric signal.

**[Operation]**

The computer with the coordinate input apparatus of the present utility model transmits the infrared beam data converted by the infrared converting circuit from the transmitting section and converts the infrared beam data received by the receiving section to an electric signal by the electric signal converting circuit.

**[Embodiment of the Utility Model]**

A preferred embodiment of the present utility model will be explained with reference to the accompanying drawings.

In Fig. 1, 16 designates a CAM apparatus body; 17, an infrared beam converting circuit for converting an electric signal to an infrared beam; 18, an infrared beam transmitting section; 19, an infrared beam receiving section; 20, an electric signal converting circuit for converting an infrared beam to an electric signal.

In the CAM apparatus structured as explained above, the data transmitted to the mouse 9 from the CAM apparatus body 16 is converted to the infrared beam by the infrared

beam converting circuit 17 for converting an electric signal to an infrared beam, it is then transmitted to the receiving section 19 in the mouse side by the transmitting section 18 and the received data is converted to an electric signal by the electric signal converting circuit 20 for converting an infrared beam to an electric signal and is finally sent to the mouse 9.

Next, the position data from the mouse 9 is converted to an infrared beam by the infrared beam converting circuit 17 for converting an electric signal in the mouse side to an infrared beam and transmitted to the receiving section 19 in the CAM apparatus side by the transmitting section 18. The received data is converted to an electric signal by the electric signal converting circuit 20 for converting an infrared beam to an electric signal and is finally sent to the CAM apparatus body 16.

In above embodiment, connection between the CAM apparatus body 16 and mouse 9 has been explained and it can also be applied to the connection between the mouse 9 and a word processor, personal computer and a computer such as work station. In this case, the similar effect can be obtained.

[Effect of the Utility Model]

According to the present utility model explained above, since mechanical connection has been eliminated from the connection between the computer body and coordinates input apparatus, breakdown of connection, poor contact, drop of signal voltage and influence external noise due to the connection by cable can be eliminated.

#### 4. BRIEF DESCRIPTION OF THE DRAWINGS.

Fig. 1 is a block diagram showing connection of the CAM apparatus and mouse depending on a preferred embodiment of the present utility model. Fig. 2 and Fig. 8 show an example of the related art. Fig. 2 is a block diagram showing the CAM apparatus. Fig. 8 is a block diagram showing connection between the CAM apparatus body and mouse.

In above figures, 16 designates a CAM apparatus body; 17, an infrared beam converting circuit for converting an electric signal to an infrared beam; 18, an infrared beam transmitting section; 19, an infrared beam receiving section; 20, an electric signal converting circuit for converting an infrared beam to an electric signal and 9, a mouse.

In above figures, the like elements are designated by like reference numerals throughout the drawings.